



ISA hosts the third edition of the High-level Conference on New Technologies for Clean Energy Transition

5 November 2024 | New Delhi, India: The International Solar Alliance, in a global collaboration with the Ministry of New & Renewable Energy, the Government of India, the Asian Development Bank, and the International Solar Energy Society, organised the third edition of the High-level Conference on New Technologies for Clean Energy Transition. This significant event took place on the sidelines of the Seventh Session of the ISA Assembly in New Delhi today, uniting stakeholders worldwide.

The conference's overarching goal is to translate dialogue into action. Deep-dive sessions focusing on new-age solar technologies, emerging storage technologies, and unleashing solar's role in accelerating equitable economic, social, and environmental development formed the crux of the discussions.

In his opening remarks, **Dr Ajay Mathur, Director General, ISA** said, "Today's Conference and discussions are very timely. In a week, the world leaders will convene in Azerbaijan under the aegis of COP29 with two guiding goals: agreed to transition away from fossil fuels, triple renewable power and double energy efficiency by 2030. Both of these goals can be built on the foundations of efficient and clean technologies, hence underlining the importance of today's proceedings."

Mr Pralhad Joshi, Hon'ble Minister, New and Renewable Energy, India & President of the ISA Assembly, in his inaugural address, noted, "As the President of the International Solar Alliance, I would like to acknowledge that today the world stands united like never before, combining the global efforts towards the energy transition. The significance of advancing solar technology cannot be overstated as we move towards the clean energy transition. With the challenges posed by climate change, our collective efforts to innovate and implement this sustainable solution are more important than ever." He further added, "At the International Solar Alliance, we believe that together we can harness the power of the sun to drive the change and create a more sustainable future. I am happy that at a platform like this, important technological advancements are being deliberated. This conference has brought together policymakers, experts, industry leaders, highlighting our global awareness. Our goal is to drive real-world change and make significant progress toward achieving the climate targets through collaboration, innovation and knowledge sharing."

Mr Prashant Kumar Singh, Secretary, Ministry of New and Renewable Energy, Government of India stated, "Government of India (GoI) has committed to translating the ISA vision into action. GOI is actively supporting through financial and technical means to assist developing countries in expanding their solar power grids to meet their energy needs. Solar energy has had a visible impact on the Indian energy scenario during the last few years. In addition to large-scale solar power plants, solar energy-based decentralised and distributed applications have benefited millions of people in Indian villages by meeting their energy needs in an environmentally friendly manner. With the increased support of the Government of India policies and improved economics, the solar energy sector has become attractive from an investor's perspective."

Ms Mio Oka, Country Director, India Resident Mission, Asian Development Bank, noted, “We must ensure that growth is green, and it's our ADB's responsibility to facilitate emerging economies' access to technologies and finance to attain green growth. The good news is that the cost of clean energy has rapidly declined, and the share of renewable energy has increased. The cost of solar PV has declined by over 80% in the last decade to about \$0.05 per kilowatt hour.”

Ms Viktoria Martin, President, the International Solar Energy Society, leaving a lead for the discussions to follow during the day said, “And I think this is the send-off idea for your discussion today, to think integrated planning in technology, to think about the diverse mix of storage that is needed to connect, for example, electricity generation to the other types of energy services, heating and cooling and transport, that are needed in our green and clean energy systems.”

An added attraction at the inaugural was the launch of the **third edition of the World Solar Report series**. Launched in 2022, the series provides a concise overview of global advancements, challenges, and trends in solar technology, markets, and investments. Key findings from the 2024 edition include:

World Solar Market Report Highlights Unprecedented Growth and Future Projections

The World Solar Market Report highlights a remarkable growth trajectory in the solar power sector.

- **Rise in Solar Capacity:** In just two decades, global solar capacity has exploded from 1.22 GW in 2000 to an astounding 1,418.97 GW in 2023—a staggering 40% annual growth rate. In 2023 alone, 345.83 GW of solar power was added, accounting for three-quarters of all new renewable capacity worldwide. Solar generation has surged similarly, rocketing from 1.03 TWh in 2000 to 1,628.27 TWh in 2023.
- **Solar Manufacturing to Exceed Demand with Over 1,100 GW by 2024:** By the close of 2024, the capacity for global solar manufacturing is projected to exceed 1,100 GW, which is more than twice the anticipated demand for PV panels. Solar cell prices have reached \$0.037/watt, while advanced mono TOPCon and mono PERC module prices have fallen below \$0.10/watt, indicating a trend towards greater affordability in solar technology.
- **Solar Industry Employment Boom:** The clean energy industry now fuels 16.2 million jobs, with solar leading the charge at 7.1 million—up 44% from 2022's 4.9 million. And a striking 86% of these jobs are concentrated in just ten countries.
- **Future Forecasts:** Global solar capacity is set to skyrocket to between 5457 and 7203 GW by 2030, driven by Paris Agreement commitments. This surge underscores the massive infrastructure push needed to meet climate goals.

World Investment Report Unveils a Dynamic Shift in Global Energy Investments

The latest World Investment Report has significantly transformed global energy investments, highlighting a steadfast march towards sustainable energy solutions. Here are the key findings:

- **Exponential Growth in Energy Investments:** Global energy investments are set to soar from \$2.4 trillion in 2018 to a projected \$3.1 trillion in 2024—a steady climb at nearly 5% annually. Global clean energy investment now nearly doubles that of fossil fuels, set to leap from \$1.2 trillion in 2018 to \$2 trillion by 2024—marking a bold pivot toward renewables.

- **The Solar Investment Surge:** Investments in solar represented ~ 59% (USD 393 billion) of all RE investments (USD 673 billion), driven largely by drop in solar panel costs
- **APAC leads global solar investments:** Region-wise, APAC is at the forefront of solar investments pouring USD 223 billion into solar in 2023. EMEA has experienced modest solar investment growth, with USD 91 billion in 2023, followed by AMER region with solar investments of USD 78 billion

World Technology Report Highlights Breakthroughs in Solar PV Efficiency and Material Innovation

The World Technology Report highlights the rapid progress being made in the field of solar technology. These innovations are not only enhancing the efficiency and accessibility of solar power but are also paving the way for a more resilient and cost-effective power infrastructure. Key highlights from the report include:

- **Record-Breaking Solar PV Panel Efficiency:** Solar PV monocrystalline modules have hit a new high with record-breaking 24.9% efficiency—a major leap in maximizing solar energy potential. Multijunction perovskite cells are set to disrupt the solar panel industry, promising higher efficiency, lower production costs, and seamless integration with diverse surfaces—leaving traditional silicon panels in the dust.
- **Solar Manufacturing Now Uses 88% Less Silicon per Watt Peak than in 2004-** The manufacturing process has undergone significant improvements, resulting in a drastic reduction in silicon usage- from consuming 16 gm/Wp in 2004 to 2 gm/Wp in 2023. This 88% decrease in silicon consumption not only reflects the strides made in optimizing material efficiency but also underscores the potential for further cost reductions and environmental benefits.
- **Utility-Scale PV Costs Hitting New Low-** The global weighted average LCOE for utility-scale Solar PV dropped by 90%- falling from USD 0.460/kWh in 2010 to USD 0.044/kWh in 2023. At country level, the drop ranges from 76%-93% over the same period.

Ministerial delegations of the ISA Member Countries, policymakers, experts, and industry leaders attended the Conference proceedings. The Conference was introduced in 2022 to drive real-world change and make significant progress toward achieving global climate goals by fostering collaboration and sharing knowledge among concerned stakeholders and key players.

The inaugural also witnessed the release of the '**Readiness Assessment of Green Hydrogen African Countries**' report by ISA and Denmark.

Direct electrification cannot solve the decarbonisation requirements of industries that still rely on fossil fuels like coal, oil, or natural gas as feedstocks to produce commodities like steel, fertilisers, refined gasoline, and diesel fuel. Hence, green hydrogen, produced through the electrolysis of water powered by renewable electricity sources like wind, solar, and geothermal, emerges as a suitable replacement for fossil fuel-based energy sources.

Mr Emil S. Lauritsen, Head of Strategic Sector Cooperation, Embassy of Denmark, New Delhi, sharing his insights on the report, said, "This report is the first project under the umbrella of the memorandum of understanding for the green hydrogen partnership, which the Embassy of Denmark has inked with the International Solar Alliance. The objective is to conduct a readiness assessment of the target countries: Egypt, Morocco, Namibia, and Egypt. The report focuses on three categories: country-specific parameters, financing requirements and possible financing methods. It also includes assessing risks and preparing plans to develop a green hydrogen economy in these countries. Under the partnership, the Ministry of Foreign Affairs of Denmark will also support ISA with three years of content, focusing on green hydrogen policy, regulation, and other components of the green hydrogen value chain."

Green hydrogen provides a great avenue to monetise a country's rich renewable resources (wherever available), aid the country in achieving industry decarbonisation, and generate sustainable jobs in the process. Countries have been identified based on their vast renewable energy potential and thus can potentially contribute significantly to developing the green hydrogen ecosystem.

About the International Solar Alliance

The International Solar Alliance is an international organisation with 120 Member and Signatory countries. It works with governments to improve energy access and security worldwide and promote solar power as a sustainable transition to a carbon-neutral future. ISA's mission is to unlock US\$1 trillion of investments in solar by 2030 while reducing the cost of the technology and its financing. It promotes the use of solar energy in the agriculture, health, transport, and power generation sectors.

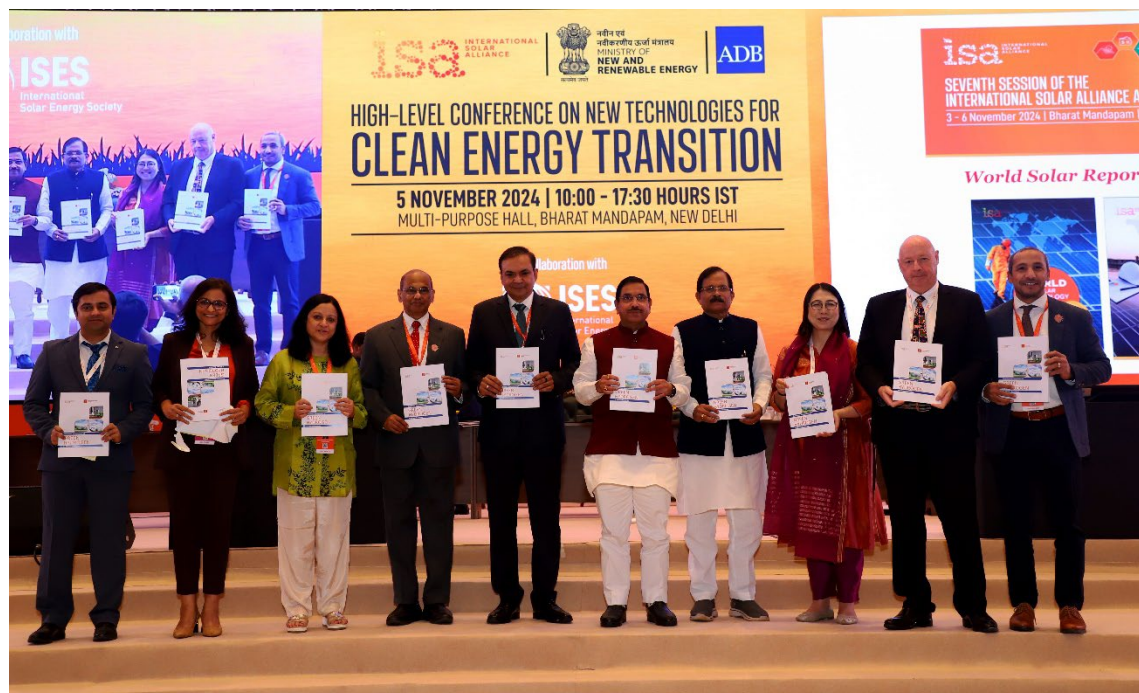
ISA Member Countries are driving change by enacting policies and regulations, sharing best practices, agreeing on common standards, and mobilising investments. Through this work, ISA has identified, designed and tested new business models for solar projects; supported governments to make their energy legislation and policies solar-friendly through Ease of Doing Solar analytics and advisory; pooled demand for solar technology from different countries; and drove down costs; improved access to finance by reducing the risks and making the sector more attractive to private investment; increased access to solar training, data and insights for solar engineers and energy policymakers. With advocacy for solar-powered solutions, ISA aims to transform lives, bring clean, reliable, and affordable energy to communities worldwide, fuel sustainable growth, and improve quality of life.

With the signing and ratification of the ISA Framework Agreement by 15 countries on 6 December 2017, ISA became the first international intergovernmental organisation to be headquartered in India. ISA is partnering with multilateral development banks (MDBs), development financial institutions (DFIs), private and public sector organisations, civil society, and other international institutions to deploy cost-effective and transformational solutions through solar energy, especially in the least Developed Countries (LDCs) and the Small Island Developing States (SIDS).

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Launch of the World Solar Reports on Markets, Investments & Technology during the High-Level Conference held on the sidelines of the Seventh ISA Assembly



Launch of the Readiness Assessment of Green Hydrogen African Countries during the High-Level Conference held on the sidelines of the Seventh ISA Assembly